



**Discussion of**  
**The Dynamics of the Real Exchange Rate:**  
**A Bayesian Approach**  
**By Cristadoro, Gerali, Neri and Pisani**

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# RER Dynamics

- Two main puzzles in international macroeconomics are:
  - Volatility and persistence of real exchange rates.
  - Lack of risk sharing: negative correlation of real exchange rates and relative consumption among countries.

HP-Filtered Data					
	Consumption Euro	Output Euro	Consumption USA	Output USA	Real Exch. Rate
Std. Dev.	0.91	1.01	1.28	1.58	7.83
Corr. with RER	-0.26	-0.06	-0.02	-0.08	1.00
First Autocorr.	0.84	0.86	0.87	0.87	0.83
	Consumption Euro, USA	Output Euro, USA	Relative Cons., RER	Relative Outputs, RER	
Other Correlations	0.33	0.47	-0.17	0.04	

Note: Relative variables are the ratio between the euro area variable and its US counterpart.



# RER Dynamics

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- CKM (RES, 2002) propose two important alternatives to explain both facts:
  - The introduction of nominal rigidities, in particular in the price of imported goods:  $q_t = s_t + p_t^* - p_t$ .
  - Introduction of incomplete markets:  $q_t = c_t - c_t^*$
  - CKM found that monetary shocks with a high degree of risk aversion and sticky prices with local currency pricing can explain real exchange rate volatility and to less extent, its persistence.
  
- But regardless of the asset market structure it is not possible to solve the real exchange rate/consumption *anomaly*, even with additional real and nominal rigidities.



# What do the authors do?

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- Evaluate empirically the role of frictions and nominal rigidities in characterizing the RER dynamics.
- USA and Euro Area ( $C, C^*, CPI, CPI^*, NT\_CPI, NT\_CPI^*, I, I^*, RER$ )



# How?

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- Non Traded Goods and Distribution Services into a NOEM (BNR, JME 2003)
- Bayesian Estimation



# What do they find?

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- Distribution costs + nominal rigidities are important.
- RER decomposition: Price discrimination explains 56%, home bias explains 7%.  
Combination of home bias and Price discrimination = 34%

# Comment I: Why Internal RER is not important?



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- ❑ Surprising result. Since, without NT goods there is no room for distribution costs.
  - ❑ Hence, the endogenous reduction of the price elasticity of demand should be significant.
  - ❑ The estimated values of the elasticity of substitution does not change significantly across specifications.
  - ❑ Very tight prior for this elasticity.

# Comment I: Why Internal RER are not important?



- Betts and Kehoe (JME 2005): Relative Price of NT goods account for 1/3 of the RER fluctuations. Disaggregated data of tradable sectors permits to obtain implicitly the internal RER.
- Burstein, Eichenbaum and Rebelo (2005): They account for roughly 50% of the cyclical moments of the RER (they use price of tradable good a the dock, X and M prices).
- $Q = \log + (2h-1) * \text{tot} + (PT/PNT - PT^*/PNT^*)$



# Comment III: Wealth Effects

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- financial autarky would mean that (regardless of preference shocks, habit formation, and others):

$$(\tilde{c}_t - \tilde{c}_t^*) = \left[ \frac{2\theta(1-\delta) - 1}{1 - 2\delta} \right] q_t$$

# Comment II: The Consumption Real Exchange Rate Anomaly



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- ❑ Are we getting closer to explain it?
  - ❑ UIP shocks explain 78% of RER. Hence, there is no fundamental explanation for RER dynamics.
  - ❑ Is there any cross-correlation that LCP and distribution costs help to match?  
Tension
  - ❑ Table 8B. UIP and Preferences shocks are important. How are they related to the extensions?: LCP and distribution costs.



## i.e Mechanism

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- Productivity shock in tradable sector

$$\uparrow A^H \rightarrow \uparrow Y \rightarrow \uparrow C \rightarrow \uparrow \text{Assets}(\text{wealth}) \rightarrow \downarrow L^S \rightarrow \uparrow W$$

$$\uparrow W > \uparrow A^H \rightarrow \uparrow \left( \frac{W}{A} \right) \rightarrow \uparrow P^H \rightarrow \downarrow Q = \frac{P^*}{f(P^H)}$$



# What about Valuation Effects?

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- ❑ Gourinchas and Rey (2005): Valuation effects are important explaining RER dynamics in US.....(positive wealth effect!!!)
- ❑ So they might be also key in explaining the Backus-Smith puzzle
- ❑ To what extent UIP shocks are capturing valuation effects?
- ❑ Valuation effects might also be important in developing economies.



# Conclusion

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- ❑ The paper contributes to the debate on RER dynamics.
- ❑ A deeper understanding of the link between non-structural shocks and key macro variables is important.